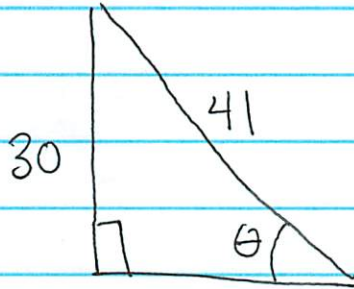


Trigonometry

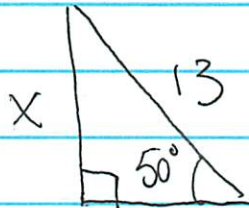
SOH
CAH
TOA



$$\sin \theta = \frac{30}{41}$$

$$\theta = \sin^{-1} \frac{30}{41}$$

$$= 47$$



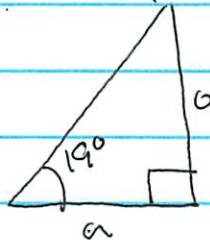
$$\sin 50^\circ = \frac{x}{13} \cdot 13$$

$$13 \sin 50^\circ = x$$

$$9.9 = x$$

CAH
SOH
TOA

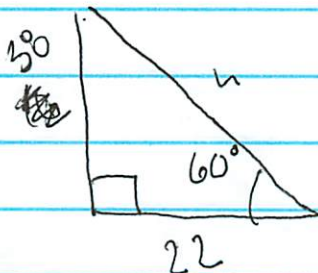
What are the vertical and horizontal components of force in this illustration?



$$\cos 19^\circ = \frac{9}{17} = 116 \text{ N}$$

$$\sin 19^\circ = 5.5$$

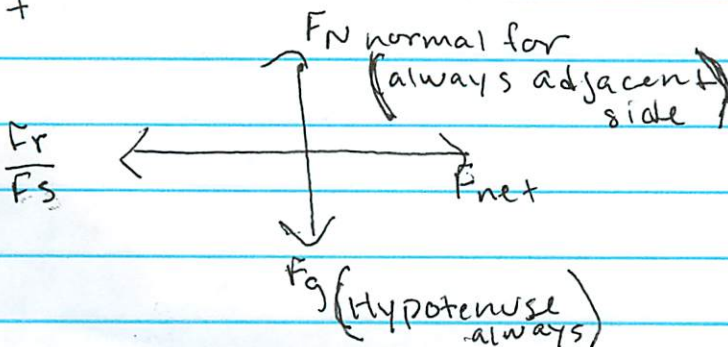
TOA
SOH
CAH



~~tan 60 = 30/22~~

$$\tan 60^\circ = \frac{x}{22} \cdot 22$$

$$x = 30$$

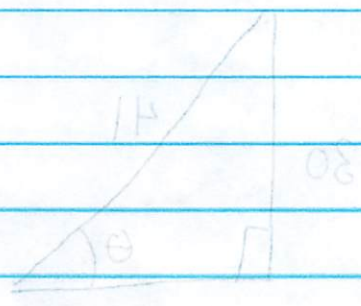


Trigonometry

$$\frac{20}{40} = \sin \theta$$

$$\frac{10}{20} = \sin \theta$$

$$\theta = 30^\circ$$

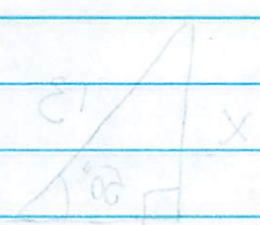


$\sin \theta = \frac{opposite}{hypotenuse}$
 $\sin \theta = \frac{20}{40}$
 $\sin \theta = \frac{1}{2}$
 $\theta = 30^\circ$

$$\sin 20^\circ = \frac{x}{12}$$

$$x = 12 \sin 20^\circ$$

$$x = 4.1$$



What are the vertical and horizontal components of force in this situation?

$$\cos 10^\circ = \frac{2}{2}$$

$$\cos 10^\circ = 1$$

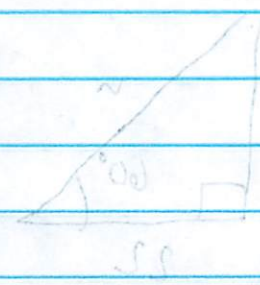


$\cos \theta = \frac{adjacent}{hypotenuse}$
 $\cos 10^\circ = \frac{2}{2}$
 $\cos 10^\circ = 1$

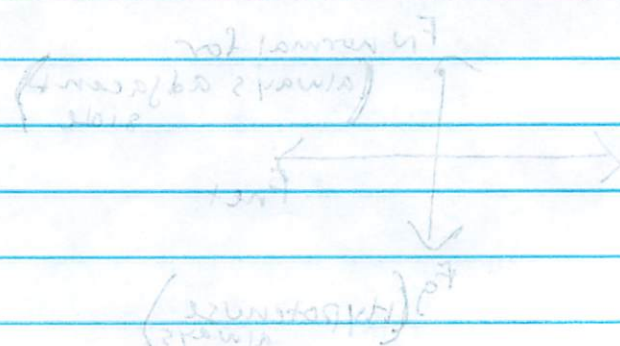
$$\sin 10^\circ = \frac{x}{12}$$

$$x = 12 \sin 10^\circ$$

$$x = 2.1$$



$\sin \theta = \frac{opposite}{hypotenuse}$
 $\sin 10^\circ = \frac{x}{12}$
 $x = 12 \sin 10^\circ$
 $x = 2.1$



$F \cos \theta$
 F